

NON-WETLAND DISCOVERY AND DOCUMENTATION FOR PARCEL 033027-21-0180

AS PRE-CONDITION FOR

MARINERS INVERSTORS PROPOSED MAJOR SUBDIVISION

OWNERS

Mariners Investors

% Zenovic & Associates 301 East 6th Street, Suite 1 Port Angeles, WA 98362

CITY OF SEQUIM DEPARTMENT OF COMMUNITY DEVELOPMENT

CITY OF SEQUIM CODE 18.80.060 AND 17.12.020. (A)

Field Investigation Conducted By:

W. David Loggy Loggy Soil and Wetland Consulting P.O. Box 2347 Port Angeles, WA 98362 November, 2018

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SUMMARY

The City of Sequim, WA wetland inventory identifies a Category IV Wetland in the northwest area of the Mariners Investment proposed land development project. The landform associated with the delineated inventory wetland is a shallow concave 15 percent sloping swale and a slope area sloping 15 percent. Both landforms slope to the northeast. The Sequim Department of Community Development is requiring Mariners Investment to have the inventory wetland re-evaluated to verify the presence / absence of a regulated wetland as indicated on the map. An onsite field investigation analysis by Loggy Wetlands & Soil Consulting determined that both landforms lack hydric soils and wetland hydrology. The landforms have wetland weighted facultative plants and facultative upland plant. There more sample plots with Facultative Upland plants than plots with facultative wetland weight plants. The field data definitely provided that 2 out of the 3 wetland criteria are absent to qualify the area as a wetland. Because of the definite lack of least two wetland criteria, the inventory wetland shown on the inventory map is not a wetland site.

The photo on the cover page is view looking northwest across the project site toward the northeast corner of Water View Dr.

WETLAND CRITICAL AREA STUDY

CONSULTING COMPANY:

Loggy Soil and Wetland Consulting W. David Loggy, CPSS P. O. Box 2347, Port Angeles, WA 98362

CRITICAL AREA DETERMINATIONS:

Determination of Present or Absence of regulated Wetland

PROPERTY OWNER

Mariners Investors % Zenovic & Associates 301 East 6th Street, Suite 1 Port Angeles, WA 98362-6720

REASON FOR STUDY:

The City of Sequim Department of Community Development is requiring as part of Mariners Investors final subdivision plan to evaluate and verify the **presence / absence** and regulatory status of a portion of an inventoried Category IV Wetland. The wetland identified in September, 2018 by Westech Company is listed as Wetland 27-B. The portion of Wetland 27-B subject to the present study and evaluation for the proposed development site is listed by Westech as portion 27-B-3 and 27-B-4 of Wetland 27-B (Insert Map in Appendix I).

PROJECT SITE LOCATION:

Investigation Area Includes Parts of Parcels:

033027-21-0180, 21-0140, 21-0130 and

21-0050.

General Location:

East side of Water View Dr. -

Wetland identified as 27-B. Portion of wetland inventoried to evaluate is

27-B-3 and 27-B-41

Legal Location: NE ¼, NW ¼ of Section 27, Township 30 North, Range 03 West, W.M., Clallam County, Sequim, WA.

APPROXIMATE SIZE OF WETLAND 27-B-3, 27-B-4: - 1.25 Acres

¹ G. Bradford Shea, Ph.D., Daniel Brooks, Anthony Grim, Charles Tanner. Wetland Mapping and Analysis. City of Sequim, Clallam County Washington. Volume 1. Main Report, Submitted September 2011. Westech Company.

ROUTE INSTRUCTIONS:

When traveling from Sequim take Highway 101 east and turn left onto Whitefeather Way. Follow Whitefeather Way and turn left onto W. Sequim Bay Rd. then turn left on Mariners View Dr. Continue on Mariners View Drive to where it turns south. At the turn cut across the pasture in a westerly direction to Water View Dr. The parcel is on the east side of Water View Dr.

Alternative Route is to take East Washington Street east to the Simdar's Rd. and turn left and the turn right onto Washington Harbor Loop. Next turn on left onto Lofgin Rd. and follow it to Keeler Rd. Follow Keeler Rd. and turn left onto Fernbrook Rd. Continue on Fernbrook Rd. through the Jones Farm Rd. intersection and then right onto the 2nd Jones Farm Rd intersection. Then turn left onto Water View Dr. and then turn south (right) on the road. The parcel is on the east side (left) of the street. (Figure 1, Appendix I).

PRE-EXISTING INVENTORIES:

The United States Fish and Wildlife (USFW) Nation Wide Inventory (NWI) does not recognize this wetland nor is the wetland identified on the Washington State wetland maps. As there is no state wetland identified on the parcel the wetland is not classified as being a high conservation wetland. Clallam County data base does not show the wetland in its map data base. The wetland is located on the City of Sequim's Department of Community Development's wetland map.

WESTECH IDENTIFIED CATEGORY IV WETLAND:

The City of Sequim in the years 2005, 2006, 2008 and 2011 contracted with Westech to do a reconnaissance and verification of wetlands within the city limits of Sequim. The reconnaissance and verification inventory for Wetland 27-B with a segment of the wetland titled as 27-B-3, 27-B-4 occupying an area between the east sides of Water View Dr. and West Sequim Bay Road. Westech's reconnaissance and verification inventory identified 27-B as a Category IV Wetland (Figure 2). None of the reports, I reviewed that were submitted to the City of Sequim provided any actual field plot data. A general description of vegetation and surface hydrology flow was provided for Wetland 27-B. Westech Company used the soil maps obtain from the Web Soil

Survey provided by the National Cooperative Soil Survey (NRCS). The soils mapped by the NRCS soil survey shows the Yeary series (soils) as the soil associated with Wetland 27-B. The Yeary soils consist of moderately deep, moderately well drained soils and are not hydric. The end result is the Westech made wetland determination mainly by vegetative cover, potential surface hydrology and landscape configuration.



METHOD AND APPROACH:

A two-Level Assessment was used to identify the wetland on Parcel 033027-21-0180. The first level of assessment included review of existing information conducted to develop background knowledge of physical features, and to identify the potential for wetland occurrence on the parcel. The resource documents available for preliminary review of the plots conditions included: USDA Soil Conservation Service (SCS), "Soil Survey of Clallam County Area Washington" and Clallam County Map Data, 2015, Clallam County and Google 2018 aerial photography, and the City of Sequim Department Community Development Wetland Map.

PHYCIAL CHARACTERISTICS OF THE PARCEL:

The parcels that are part of the Mariners Planned Development area consists of a sloping terrace area that slopes in a north easterly direction. Slopes range in gradient from 5 to 15 percent towards W. Sequim Bay Road and Sequim Bay. Slope land forms range from straight single slopes to a shallow concave swale.

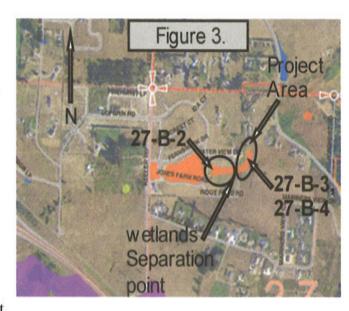
Presently the parcels support a variety of plant cover consisting of areas of dense growth of the invasive species, Rubus procerus (Himalayan blackberry) located along the property lines of the northwest corner. The northwest corner of the property has a high infestation of Galium aparine (Gleavers bedstraw), Cirsium sp. (Canada and bull thistle) and Leucanthemum vulgare (oxeye daisy). The remaining area of the parcels consists of various plant communities of non-native and native forbs and grasses.

The Clallam County Soil survey identifies the soils on the parcel as the Yeary Series. Yeary soils consists of moderately deep, moderately well drained soils that formed in reworked marine sediments over dense, very compact till. The upper 9 inches of the soil surface layers have a matrix of dark brown (10YR 4/3) gravelly loams while the 6-inch-thick subsurface soil matrixes are yellowish brown (10YR 5/3) gravelly loams with few fine distinct yellowish brown (10YR 5/6) redox concentrations. Subsoil layers up to 26 inches thick have yellowish brown (10YR 5/4) gravelly clay loams matrixes with few to common distinct dark yellowish brown (10YR 4/6) redox concertations. The Yeary soils are not classified as hydric soils as they have an Oxyaquic condition, a condition where the soils are only periodically saturated and soil reduction does not take place. Oxyaquic conditions may or may not have redoximorphic. Yeary soils are not classified as hydric soils.

PLOTS ANALYSIS IN 2018 OF WESTECH WETLAND ON PARCEL 033027-21-0180:

The Category IV wetland area on Mariner's property was re-investigated from October 29 to November.5, 2018. The study was restricted to the wetland area on the parcel identified 2011.

The Westech wetland shown in Figure 3 is two separate landforms that represents two of three segment of wetland 27-B. The two areas represent wetland 27-B-2, 27-B-3 and 27-B-4. Wetland segment 27-B-2 is bisected by a human-made feature (Water View Dr.) from segments 27-B-3 and 27-B-4. When water discharges in only one direction from one wetland to the other wetland on the other side of the human-made feature the wetland areas are considered two separate wetlands (Hruby, T., 2014)². Under this rule each wetland has to be classified and rated on it on merits of water quality, wetland hydrology and wildlife habitat.



The retention pond abutting the east side of Water View Dr. as well as the wetland on the east side of the pond and west property line of the parcel would be composed one wetland under the Westech inventory (Figure 3). The retention pond on the eastside of the north-south section of Water View Dr. abuts the west property line of

parcel 033027-21-0180. The west portion of Westech wetland on Parcel 033027-21-0180 abuts the west edge of Water View Dr. and includes the retention pond.

The area of Westech wetland on the parcel consists of three separate landforms. Two areas one concave and one straight slope area abuts the east toe slope of the retention



² Hruby, T. Washington State Wetland Rating System for Western Washington: 2014 Update. (Publication #360-407-6600. Olympia, WA: Washington Department of Ecology, p.23

pond. The swale in this area has a very low cross section with slopes ranging from 1 to 5 percent. The swale has a slope gradient of 15 percent to the north east. Retention pond overflow from the pond riser pipe discharges to this very shallow swale and its poorly defined shallow segmented vegetated drainage. This swale ends in a bowl immediately east of Sample Point 5 (Figure 4). The slope landform is a straight slope with a 15 percent gradient on the north side of the swale and terminates at the same bowl area as the swale area. Six sample plots were established within the two areas. Five plots were established on the swale and one on the slope area (Figure 4).

The third landform is another swale. The head of this swale is approximately 30 feet northeast of the northeast corner of the bowl. This swale is as wide as the other swale but ranges from three (3) to six (6) feet deep to its vegetated bottom. The swale does not have any exposed soil erosion. The mouth of the swale flares out onto a ten (10) percent slope along the east end of a tree wind break just west of West Sequim Bay Road (Figure 4). The insert map (Westech Wetland Map of Section 27) defines the start of the first swale as 27-B-3 and the end of second swale as 27-B-4.

Vegetation: Presently (Nov 2018) the swales and slope landforms areas have shrubs and herbaceous forbs and grasses that constitutes Facultative Upland (FACU) and Facultative (FAC) species³. The dominate vegetation on the five (5) sample points on the swale landform and the

one plot on the slope landform are presented on Table 1 below. Sample plots 4 and 5 were the only sample plots on the swale that has FAC vegetation. The other thee sample plots have FACU vegetation. Sample plot 6 on the slope landform has dominant FACU species cover. Gleavers bedstraw (Figure 5) is a winter annual and is green and Oxeye daisy basal leaves are still green but their flowering stalks are dead. Some grasses have new green growth but most grass stalks and seed heads are



dead (Figure 5). Soil auger samples taken just inside the edge of the Rubus procerus (Himalayan blackberry) indicated the same soils as in the non-shrub portion of the swale. Vegetative cover for each plot can be reviewed in the field data sheet in Appendix II. Additional photos of the site are presented in Appendix IV.

Non-dominant species include Poa sp. bluegrasses, Bromus sp. (brome grass), Cirsium arvense (Canada thistle) and Plantago Major (broadleaf plantain). Some areas on both the landforms have dense stands of Canada thistle. The percent cover of Canada thistle in the second swale varies and occurs in scattered patches. The area along the west property line of the parcel from the south end of the retention pond to the northwest corner of the parcel is covered with a dense stand of Rubus procerus (Himalayan blackberry). At the north end of the retention pond another dense stand of Himalayan blackberry (FACU) grows in a line towards the east on the property.

OBL (Obligate Wetland Plants – Almost always occur in wetlands.

FACW (Facultative Wetland Plants) - Usually occur in wetlands, but may occur in non-wetlands.

FAC (Facultative Wetland Plants) – Usually occur in wetlands and non-wetlands. FAC plants are now weighted as wetland plants in determining if wetland vegetation is present on an area.

FACU (Facultative Upland Plants) - usually occur in non-wetlands, but may occur in wetlands.

TABLE 1

	WEST SWAL	E LANDFORM	
Species	Scientific Name	Common Name	Indicator Species
	Galium aparine	Gleavers bedstraw	FACU
	Agrostis sp.	Bentgrasses	FAC
	Festuca arundinacea	Tall fescue	FAC
	Festuca pratensis	Meadow fescue	FACU
	Dactylis glomerata	Orchard grass	FACU
	Lolium perenne	Perennial ryegrass	FAC
	SLOPE L	ANDFORM	
Species	Leucanthemum vulgare	Oxeye daisy	FUCU
Species	Festuca pratensis	Meadow fescue	FACU
	Festuca rubra	Red fescue	FAC
	EAST SWALI	E LANDFORM	
Species	Bromus sitchensis	Alaska Brome	FACU
	Dactylis glomerata	Orchard grass	FACU
	Festuca pratensis	Meadow fescue	FACU
	Galium aparine	Gleavers bedstraw	FACU
	Lolium multiflorum	Italian ryegrass	FACU
	Lolium perenne	Perennial ryegrass	FAC
	Rubus procerus	Himalayan blackberry	FACU
	Vicia americana	American vetch	FACU

USDA Soil Survey Soils: The Clallam County Soil Survey identifies that the Yeary Series (soil) is located on the parcel. The Yeary soils are not considered hydric soils. Typically, Yeary soils have gravelly loam surfaces with gravelly loam and gravelly clay loam subsoils that range from 20 to 40 to dense till. The subsurface soil layer has few fine distinct yellowish brown redoximorphic (redox) concentrations in the matrix (solid phase of the soil). Redox concentrations are bodies of accumulation of Fe-Mn oxides. The subsoil layer has few, fine to moderate distinct dark yellowish-brown redox concentration. Yeary soils are classified as having a feature described as oxyaquic. A soil is oxyaquic when it is periodically saturated but not long enough to produce soil reduction resulting in hydric soils.

Project Soils: The soils on the Westech 27-B-3 and 27-B-4 site are not the Yeary soils but have some similar characteristics. The soils are moderately deep, moderately will to well drain soils. The project soils are similar in color but have fewer redox concentrations from the Yeary soils. The soils at the other plots have fewer (zero to less than 2%) fine distinct redox concentrations than the Yeary soils. The soils at all the sample plots have hue colors of 7.5 YR, 10YR, and 2.5Y and high values of 4 and 5 and chromas of 3 like the Yeary soils. The soils at the sample plots are generally shallower in depth on both landforms ranging from 12 to 20 inches to dense compact till compared to the 20 to 40 inches range to till like the Yearly soils. The soil sample on plot 5 is 12 inches deep to bedrock or a large glacial boulder. All the soils in the swales have loams, fine sandy loams, loamy fine sand, gravelly to very gravelly loamy sands and gravelly sandy loams. The sample plot 6 soil on the slope landform has similar clayey textures like the Yeary soils but lacks gravel particles. Sample plots 1, 5 and 8 have no redox concentrations as did

several auger test sites. The soils in the swales have to have soil saturation due to the nature of the landform being an area for collecting up slope run off in addition to any over flow from the retention pond. Due to the bright soil colors and low percentages of redox concentration the soils would be considered to have oxyaquic conditions like the Yeary soils.

Hydrology: At the time of sampling there was no saturation, standing water or water table present in the soils. The precipitation in 2018 is below normal for this time of year on the Olympic Peninsula. The present or lack of wetland hydrology is discussed below under the heading of wetland - non-wetland determination.

WETLAND - NON-WETLAND DETERMINATION

It is the decision of David Loggy of Loggy Soil and Wetland Consulting that after conduction the field investigation and evaluation of the field data that the swales and slope landforms are not wetlands. Documentation supporting the non-wetland decision is presented below.

For a land area to be identified and classified as a wetland the land area must have present all three (3) wetland indicators. The wetland indicators are hydrophytic vegetation, hydric soils and wetland hydrology. The following describe the indicators:

- Hydrophytic plants are plants that require or can tolerate prolong inundation or soil saturation during the growing season.
- Hydric soils are soils formed under conditions of saturation, flooding or ponding long
 enough during the growing season to develop anaerobic condition and soil depletions in
 the upper part of the soils.
- Wetland hydrology indicators are used in combination with hydrophytic vegetation and hydric soils to provide observable evidence of episodes of inundation or soil saturation over a period of years to produce wetland plant communities and hydric soil morphology.

Vegetation - The analysis determined that there is only a dominance of facultative and facultative upland vegetation on the landforms.

Only sample sites 4 and 5 have a dominance of facultative (FAC) wetland vegetation. The other plot sites have dominant vegetation consisting of facultative upland (FACU) species. In any project sites it is not unusual to have a dominance of facultative (FAC) vegetation on upland land sites. This is due to the relative recent reclassification of many grass species to FAC status because they are now considered to be more adapted to soil saturation or inundation⁴. As long as there are still presences of non-hydric soils or no wetland hydrology or both, having a dominance of FAC species on plot does not make the site a wetland.

Soils - The analysis determined that neither the swale nor the slope areas have hydric soils.

⁴ U.S. Army Corps of Engineers. *Western Mountains, Valleys, and Coast 2014 Regional Wetland Plant List.* Lichvar, R.W., M. Bulterwick, N.C., Melvin, and W.N. Kirchner. 2014: The National Wetland Plant List: 2014 Update of Wetland Plant Ratings. Phytoneuron 2014-41: 1-40.

The project area soils are located in the USDA Land Resource Region (LRR) A. Hydric soil indicators for LRR A are defined in the Field Indicators of Hydric Soils in the United State (A Guide for Identifying and Delineating Hydric Soils, Version 8.1,2017.⁵ None of the sample plot site soils within the swale or on the slope as well as other auger test sites met any of the hydric soil indicators listed in the guide for LRR A. An analysis of the soils to the different hydric soil indicators in LRR A is documented in Appendix C.

Hydrology: - Conclusion is that the two landform sites do not have wetland hydrology.

A feature of the Yeary soils is that it has a perched water table above densic material (till). The Yeary soil colors indicates that a perched water table is present long enough to produce redox concertations but not long enough cause soil depletion required to produce hydric soil conditions.

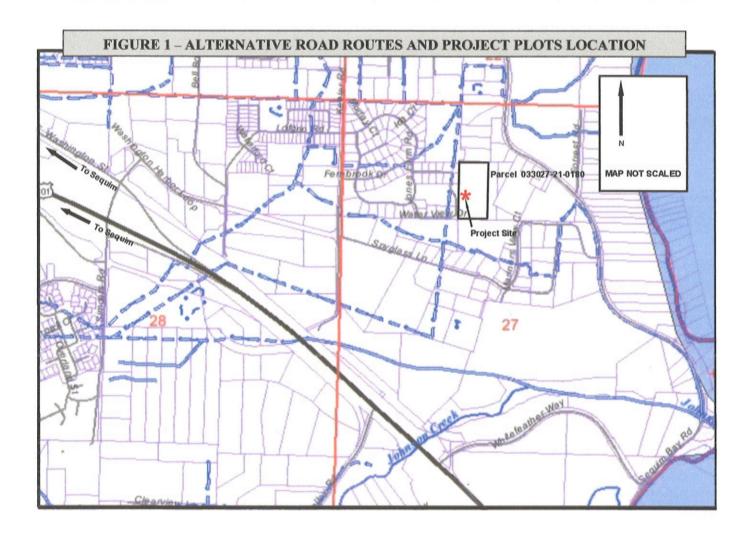
There was no water table, soil saturation or inundation during the field investigation period. The presence of few distinct redox concertations in all the soil matrixes and minor depletion in one of the soils indicate the presence of a perched water table and/or soil saturation during some period of time in the early part of the growing season, similar to the Yeary soils. It is only logical that the swale and slope receive precipitation but the swale also receives any overflow from the retention pond during the winter period and early growing season. Similar to the Yeary soils, the soil matrix colors and the few redox concentrations in the swale and slope soils is indicating that the duration of any water table and/or soil saturation is periodic and not long enough during the early growing period to produce soil matrix depletion resulting in hydric soil conditions and morphology. Table 2 below shows absences or present of any wetland criteria at each plot and comparison of wetland criteria between sample plots

TABLE 2												
Wetland Criteria	Plot1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6						
Hydrophyte Vegetation	No	No	No	Yes	Yes	No						
Hydric Soils	No	No	No	No	No	No						
Wetland Hydrology	No	No	No	No	No	No						
Wetland Site	No	No	No	No	No	No						

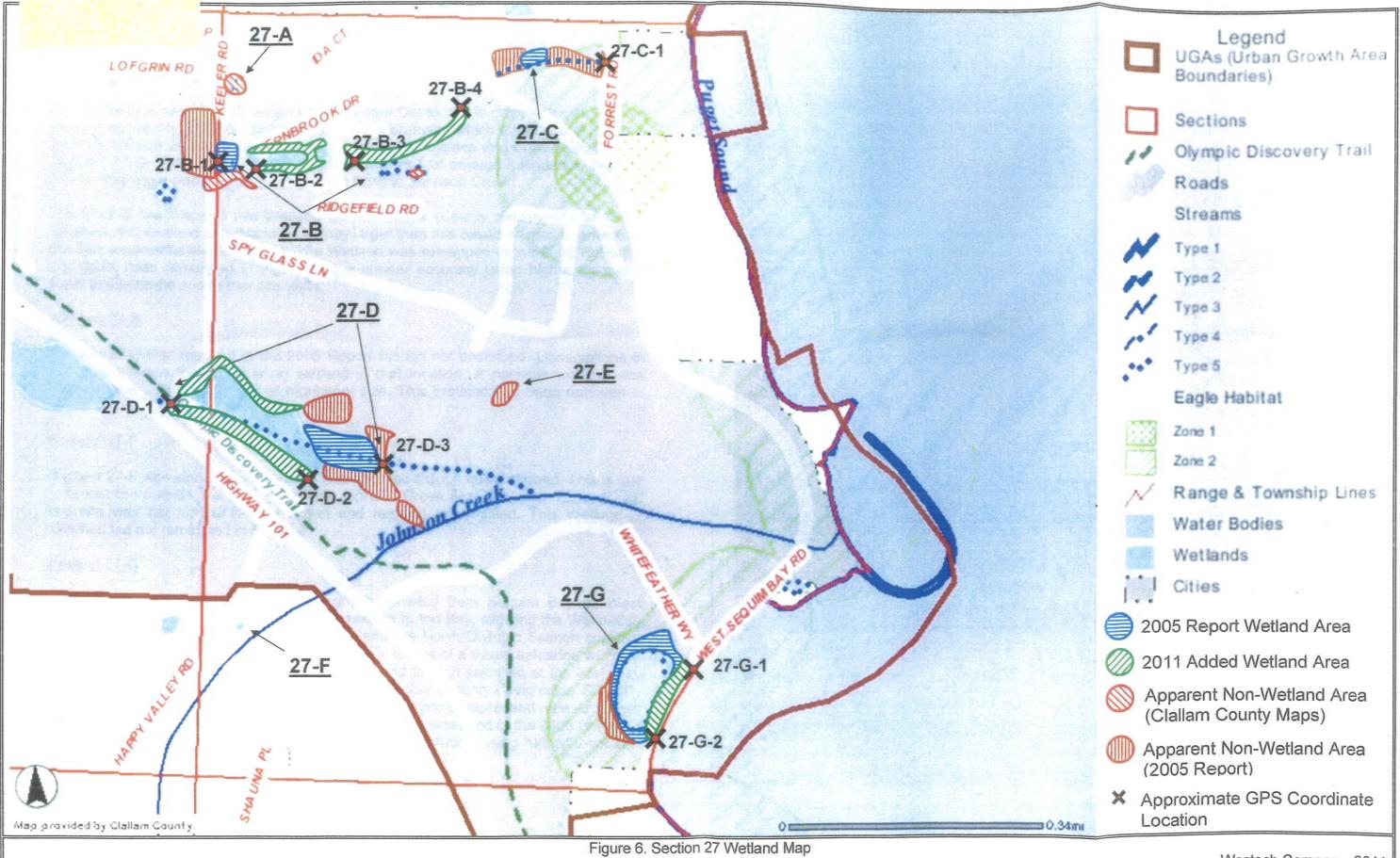
⁵ United States Department of Agriculture, Natural Resources conservation Service. 2016. Field Indicators of Hydric Soils in the United States, Version 8.0. L.M. Vasilas, F.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with National Technical Committee for Hydric Soils.

APPENDIX I

ALTERNATIVE ROAD ROUTES AND PROJECT LOCATION



WESTECH INSERT MAP OF SECTION 27



Westech Company 2011 Sources: Clallam County 2011

APPENDIX II

FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Regions

Project/Site: MARINERS OUTLOCK PRE 18-0	05		The second second	ounty: /Sequir	m/Clallam	Sampling Date: 0		2018				
Applicant/Owner: Mariners Investors Investigator(s): W. David Loggy, Loggy Soil & Wetland Consulting Landform (hillslope, terrace, etc): Sloping Terrace Local relief (concave, convex, none): Concave Subregion (LRR): A Lat: N 48.069243° Lat: N 48.069243° Soil Map Unit Name: Mu 20, Yeary Series State: WA Section 27, Township 30N, Range 03W: Local relief (concave, convex, none): Concave Local relief (concave, convex, none): Concave Slope (%) 15 Datum: WAS 84 Soil Map Unit Name: Mu 20, Yeary Series (see any correction in Soil Section) NWI classification: None												
							Slope	(94) 15				
Soil Map Unit Name: Mu 20, Yeary Series	(see any	correction	on in S	oil Section)	NW	I classification:	Vone					
Are climatic / hydrologic conditions on the site ty	pical for this ti	me of yea	ar? Ye									
Are vegetation , Soil , or Hydrology s Are vegetation , Soil , or Hydrology r					ormal Circumsta	nces" present? \text{\text{N}} answers in Remark	es 🛛	No 🗌				
Are vegetation, son, or Hydrology i	laturally probles	matter		(II need	ed, explain any a	mswers in Remark	s)					
SUMMARY OF FINDINGS - Attach site map sho		g point lo				res, etc						
	No ⊠ No ⊠ No ⊠			e Sampled Ar nin a Wetland		Yes 🗌	No	\boxtimes				
Remarks:	110 🖂											
VEGETATION - Use scientific names of plant	S											
1007-0 15007-0 W 1007-0 W 1007-0 W 1507-0 W 1507	Absolute	Domi	0 (89)	Indicator		Test worksheet						
Trees Stratum (Plot size:30' radius)	% Cover	Speci	ies?	Status		Dominant Species	That	5/015 00				
1.						ACW, or FAC:		(A) 2				
2.						er of dominant		1190200011 1001				
3.					The second service of the second	oss All Strata:		(B) 4				
5.						ominant Species L, FCW, or FAC	D:	(A/B) 50				
	_	Total C	oven		Duovalanas	Index workshee	4.					
		Total C	over		Total % Cov							
Sapling/Shrub Stratum (Plot size: 10' Radius)					10441 70 000	er or. ividitipi	y Oy.					
1.					OBL species		X	1 =				
2.					FACW speci	ies	X	2 =				
3.					FAC species		X	3 =				
4.					FACU speci	es	X	4 =				
5.					UPL Species		X	5 =				
6.					Column tota	ls (A	A)	(B)				
7.					Prevalence in	ndex = B/A =						
		Total C	over		Hydrophytic	Vegetation Indica	itors:					
Herb Stratum (Plot size: 1.64 Radius)					☐ 1. Rapid T	est for Hydrophyti	c Veget	ation				
1.Galium aparine	40	Ye	s	FACU	□ 2 Domina	nce Test is >50%						
2. Agrostis sp	20	Ye	s	FAC	2.501111181	ice rest is - 30%						
3. Festuca arundinacea	15	Ye	s	FAC	3. Prevaler	nce Index is ≤3.01						
4. Festuca pratensis	10	Ye	s	FACU	☐ 4 Morpho	logical Adaptation	sl (Prov	ide				
5. Poa sp	5	No		FAC		ing data in Remark						
6. Bromus sp	5	No		FACU	sheet)			erranos por a ctivos en el remonentes				
7.Cirsium arvense	5	No		FACU	☐ 5 Wetland	i Non-Vascular Pla	intel					
7.Clistum at vense		-	377	FACO	- S. Welland	rion vascalat i i	ano					
Woody Vine Stratum (Plot size: 10'	100 =	Total C	over		Problemat	ic Hydrophytic Ve	getation	1				
Radius)					(Explain)							
1.						hydric soil and we	tland hy	drology must				
2.					be present.							
	19	Total C	Cover		Hydrophytic							
% Bare Ground in Herb Stratum			vojeseletikowe sił		Vegetation Present?	Yes 🗌	No [⊠				
Remarks: Galium on site is aparine because in green growth at the time of sampling.	se it has leave	es with s	short-	pointed tips								

SOIL											Sampling Point: 1			
	iption: (Describe	t o the d	Search and American			the indicate	ors or conf	irm the a	bsence	of indic	ators)			
Depth (inches)	Matrix Color (moist)	%	Redox Fe	organisa employee	%	Type ¹	Loc ²	Textur	es I	Remark	s			
0-4	7.5YR 3/3	G-28	7000		Konso		CALWERS AN	1	1	1 fgrs	tructure; 3f,m,c roots; aw bndy			
4-8	7.5YR 5/3							Is	1	2 m gr structure; 1vf roots; aw				
8-13	7.5YR 3/3							gls		1f sbk part to 1fgr structure; 1vf roots; cw bndy				
13-18	7.5YR 3/3							gsl		THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM	k part to 1 m gr structure; 1 vf roots			
18	V0010 00047 W0010								1		compact till requiring chipping with			
					110000					ine spe				
			7 7 1 1 1 1											
									_					
¹ Type: C=Co	oncentrations, D=D	epletion.	RM=Reduce	d Mat	ix. CXS	S=Covered o	or Coated S	l Sand Grain	s. ² Lo	ocation	Pl=Pore lining, RC=Root Channel, M=Matrix			
	Indicators: (Ap)										Indicators for Problematic Hydric Soils ³ :			
Histosol Histic Ep Black Hi Hydroge Depleted Thick Da	(A1) pipedon (A2) stic (A3) n Sulfide (A4) Below Dark Sur rk Surface (A12)	face (A	5590		Sandy I Strippe Loamy Loamy Deplete Redox	Redox (SS d Matrix (S Mucky M Gleyed M ed Matrix (Dark Surfa) S6) ineral (F1) atrix (F2) F3) ace (F6)		MLR	RA 1)	2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks 3			
Sandy Mucky Mineral (S1) □ Sandy Gleyed Matrix (S4) □ Depleted Dark Surface (F7) □ Redox Depressions (F8) □ Mindicators of hydrophytic vegetation and wetland hydrology must be present, unled disturbed or problematic.														
Restrictive Layer (if present): Type: Compact till Hydric Soil Present? Yes \(\) No \(\)														
Remarks:	ches): 18 inches	200 000 1000 2000		control (Marine)			ALL PROPERTY.							
The soil at t	his site is genera	lly moi	e sandy the	in the	Yeary	Series.								
HYDROL		And the second												
	drology Indicat		required: cl	eck a	II that s	annly)					Secondary Indicators (2 or more required)			
Surface N High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundation	Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Saturation (A3) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated concave Surface (B8) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Advantation (A) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Sparsely Vegetated concave Surface (B8) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Sparsely Vegetated Concave (B9) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Oralinage Patterns (B10) Drainage Patterns (B10) Sparsely Vegetated Concave (B13) Sparsely Vegetated Concave Surface (B8) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Valent Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) National Concave (B9) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Valent Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Drainage Patterns (B10) Sparsely Vegetated Concave (B9) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Valent Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Drainage Patterns (B10) Sparsely Vegetated Concave (B9) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) National Concave (B9) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) National Concave (B9) Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patt													
Field Observ	ations													
Surface Wat	er Present?	Yo	es 🔲 🔝	No 🗵] D	epth (inch	es):							
Water Table	Present?	Ye	es 🔲 💮 1	No 🗵] D	epth (inch	es):							
Saturation P (includes cap	resent? pillary fringe)	Ye	s 🗆 🗈 1	lo ⊠	D	epth (inch	es):		Wetla	and Hyo	drology Present? Yes □ No □			
	corded Data (stre	am gau	ge, monitori	ng we	ll, aeri	al photos,	previous i	nspection	ns), if a	availabl	e:			
	ear is dryer that etention flows t										tion pond is up slope from the site Theover			

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Regions

						19041450- 100		
Project/Site: MARINERS OUTLOCK PRE 18-0	05	-		ounty: /Sequir			Date: OCT 29	9, 2018
Applicant/Owner: Mariners Investors Investigator(s): W. David Loggy, Loggy Soil & V	Vetland Consult	ting	State:		p 30N, Range 03	Sampling l	Point: 2	
Landform (hillslope, terrace, etc): Sloping Terrace					e, convex, none):		Slop	e (%) 15
Subregion (LRR): A	Lat:	: N 48.00	6928°	1-1-8-1-1-1-1	Long: W 123.0	5316°	Datum: V	
Soil Map Unit Name: Yeary Series	(see any correct	tion in S	oil Sect	ion)			ion: None	
Are climatic / hydrologic conditions on the site ty Are vegetation , Soil , or Hydrology s	pical for this tir	me of ye	ar? Ye		(If no, explain			
Are vegetation , Soil , or Hydrology s	aturally problem	matic?	-		ormal Circumstar ed, explain any a			No L
				XXXXXXX			(Cinarks)	
SUMMARY OF FINDINGS - Attach site map sho		g point l				res, etc		
	No ⊠ No ⊠			e Sampled Ar nin a Wetland		Yes 🗆	NI.	
	No 🗵		With	iii a wetiand	r	res 🗀	INC) M
Remarks:								
VEGETATION – Use scientific names of plant		ъ.		·	1			
Trees Stratum (Plot size:30' radius)	Absolute % Cover	Domi	525 F650 3	Indicator	Dominance 7			
1. (Flot size.50 radius)	% Cover	Spec	ies/	Status	Number of D Are OBL, FA			(A) 2
2.							THE RESERVE THE PARTY OF THE PA	(A) 2
3.					Total; Number Species Acro			(D) 4
4.					Percent of Do			(B) 4
5.					That Are OB			(A/B) 50
3.								(100) 50
		Total C	Cover		Prevalence I			
Sapling/Shrub Stratum (Plot size: 10' Radius)					Total % Cove	er of: M	<u>fultiply by:</u>	
1.					OBL species		X	1 =
2.					FACW specie	es	X	2 =
3.					FAC species			3 =
4.					FACU specie	s		4 =
5.					UPL Species		X	5 =
6.					Column total	s	(A) (H	
7.					Prevalence in	(2)		
		- Total C	'over		Hydrophytic \			
		Total	JOVEI		Trydrophytic	v egetation	i indicators.	
Herb Stratum (Plot size: 1.64 Radius)					1. Rapid To	est for Hyd	rophytic Vege	tation
1.Galium aparine	25	Ye	es	FACU	2.Dominan	ce Test is 5	5004	
2. Agrostis sp.	25	Ye	es	FAC	Z.Dominan	cc rest is -	-3070	
3. Dactylis glomerata	15	Ye	es	FACU	3. Prevalen	ce Index is	3.01	
4. Festuca pratensis	15	Ye		FAC	4. Morphol	onical Ada	intational (Pro	vida
5. Cirsium arvense	10	No	20.07	FACU			Remarks or on	
6. Bromus sp.	5	No		FACU	sheet)			note that the state of the stat
	5				5. Wetland	Non Vocas	ular Dlantal	
7. Lolium perenne		No	52	FAC	J. Wettand	Non- v asc	uiai i iaits	
Woods Vins Startum (District 10)	100 =	Total C	Cover		Problematic	c Hydrophy	ytic Vegetatio	n^1
Woody Vine Stratum (Plot size: 10' Radius)			(Explain)					
1.						nydric soil	and wetland h	ydrology must
2.					be present.			
	-	Total C	Cover		Hydrophytic			
% Bare Ground in Herb Stratum					Vegetation Present?	Yes 🗌		
Remarks: Galium on site is aparine because i short-pointed tips. The Galium aparine is					lium on site is	aparine t	ecause it ha	

SOIL							NATIONAL AUGUSTUS AND				Sampling Point: 2				
	iption: (Describe t	t o the d			ument	the indicate	ors or con	firm the at	sence	of indic	ators)				
Depth (inches)	Matrix Color (moist)	%	Redox Feat Color (moi	microscopiosis (%	Type ¹	Loc2	Texture	es F	Remark	S				
0-4	10YR 3/3							sl		1 f gr structure; 2 m, c & 3 vf, f, roots; cw bndy					
4-10	10YR 4/3 & 5/3							vgsl		1 vf sbk structure; 1vf roots; cw bndy					
10-14	10YR 5/3							vgls	2	2 m sb	k structure; 1vf roots; cw bndy				
10-17	10YR 4/3		7.5YR 3/4		<2	C	M	vgls	1	l vf sb	k structure; gw bndy				
17-17.5	10YR 4/3		7.5YR 3/4	1	<2	C	M	vgls		Hard c structu	ompact till chip out to 1 vf sbk re				
									-						
						-									
Type: C=C	oncentrations D=D	enletion	RM=Reduced	Mate	iv CXS	S=Covered	or Coated	Sand Grain	e 21.0	cation	PI=Pore lining, RC=Root Channel, M=Matrix				
	Indicators: (Ap)							Sand Orani	s. L.u	cation.					
Histosol Histic Ep Black Hi Hydroge Depleted Thick Da	(A1) pipedon (A2)	face (A			Sandy I Strippe Coamy Coamy Deplete Redox I Deplete	Redox (SS) d Matrix () Mucky M Gleyed M d Matrix () Dark Surfa d Dark Su Depression	S6) ineral (F1 atrix (F2) (F3) ace (F6) urface (F7		MLR	A 1)	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.				
Restrictive Layer (if present): Type: Hard compact till Depth (inches): 17 inches Remarks: The soil at this site is more gravelly and sandy than the Yeary Series															
HYDROL	OGY														
	drology Indicate														
Primary Ind	icators (minimum	of one	required; che	eck al	l that a	apply)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Secondary Indicators (2 or more required)				
High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundatio	Water (A1) tter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aer Vegetated concar				ML Salt Cr Aquati Hydro Oxidiz Presen Recent Stunte	Stained L. RA 1, 2, 4 rust (B11) ic Inverteb gen Sulfid red Rhizos ce of Redu i Iron Redu d or Stress (Explain in	rates (B1: e Odor (C pheres ald uced Iron uction in the Plants	B) 3) C1) ong Living (C4) tilled Soils (D1') (L1	s (C6)		Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC=Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)				
Field Observ	vations														
Surface Wat	er Present?	Y	es 🗌 N	o 🗵	D	epth (inch	es):								
Water Table	Present?	Y	es 🗆 N	o 🗵	D	epth (inch	es):								
	pillary fringe)		the second product	o 🛛		epth (inch	C24001.40004		03440-04413-040	Western Company	Irology Present? Yes □ No ⊠				
Describe Re	corded Data (stre	am gau	ge, monitorin	g we	ll, aeri	al photos,	previous	inspection	ıs), if a	availabl	e:				
over flow of	the retention flo	ows thr	ough a shall	ow vo	egetate	ed draina;	ge ditch 2	0 feet no	rth of	this sit	tion pond is up slope from the site The e. Year is dryer than normal but soils do getated drainage ditch 10 feet north of this				

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Regions

Project/Site: MARINERS OUTLOCK PRE 18-0	05		County: /Sequir		g Date: OCT 29,	2018							
Applicant/Owner: Mariners Investors Investigator(s): W. David Loggy, Loggy Soil & Wetland Consulting Landform (hillslope, terrace, etc): Sloping Terrace Local relief (concave, convex, none): Concave Subregion (LRR): A Lat: N 48.06928° Long: W 123.05316° Datum: WAS 84													
					e Slope	(%) 15							
Subregion (LRR): A	Lat	: N 48.06928°		Long: W 123.05316°	Datum: W.								
Soil Map Unit Name: Yeary Series Are climatic / hydrologic conditions on the site ty	(see any correc			NWI classific (If no, explain in Rema	ation: None	namal							
Are vegetation , Soil , or Hydrology steet				ormal Circumstances" pre									
Are vegetation , Soil , or Hydrology n				ed, explain any answers in									
SUMMARY OF FINDINGS – Attach site map sho	wing sampling	noint location	one transects i	mnortant features, etc									
Hydrophytic Vegetation Present? Yes	No 🛛		the Sampled Ar	ea									
	No ⊠ No ⊠	W	ithin a Wetland	? Yes	☐ No	\boxtimes							
Wetland Hydrology Present? Yes Remarks:	No 🖂												
VEGETATION – Use scientific names of plant				T									
Trees Stratum (Plot size:30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Number of Dominant									
1.	70 COVCI	Species:	Status	Are OBL, FACW, or		(A) 2							
2.				Total; Number of do									
3.				Species Across All S		(B) 4							
4.				Percent of Dominant		5/5/AEA 3/5							
5.				That Are OBL, FCW	, or FAC:	(A/B) 50							
	=	Total Cover	•	Prevalence Index w	orksheet:								
Sapling/Shrub Stratum (Plot size: 10'				Total % Cover of:	Multiply by:								
Radius)					<u> </u>								
1.				OBL species	X	79 3000							
2.				FACW species	X	2 =							
3.				FAC species	X:	3 =							
4.				FACU species	X	1 =							
5.				UPL Species	X:	5 =							
6.				Column totals	(A) (B))							
7.				Prevalence index = E	3/A =								
	=	Total Cove	,	Hydrophytic Vegetati	on Indicators:								
Herb Stratum (Plot size: 1.64 Radius)				1. Rapid Test for H	ydrophytic Vegeta	ation							
1.Galium aparine	25	Yes	FACU	□ 2.Dominance Test i	a > 500/	Mariana							
2. Agrostis sp	25	Yes	FAC	2.Dominance Test i	8 ~ 30 70								
3. Dactylis glomerata	15	Yes	FACU	3. Prevalence Index	is ≤3.0¹								
4. Festuca pratensis	15	Yes	FAC	4. Morphological A	daptations ¹ (Prov	ide							
5. Cirsium arvense	10	No	FACU		n Remarks or on a	ı separate							
6. Bromus sp	5	No	FACU	sheet)									
7. Lolium perenne	5	No	FAC	5. Wetland Non-Va	scular Plants ¹								
	100 =	Total Cover	•	Problematic Hydro	ohytic Vegetation	í							
Woody Vine Stratum (Plot size: 10' (Explain)													
1.				Indicators of hydric so	il and wetland hy	drology must							
2.				be present.		*/ THE THE SALVENT AND THE SALVEN SA							
		Total Cove	*	Hydrophytic									
% Bare Ground in Herb Stratum			900 900	Vegetation Present? Yes	□ No [×							
Remarks: Galium on site is aparine because	it has leaves	with short-po	ointed tips.	n realistaceaudhs									

Profile Descr	iption: (Describe t	o the d	enth needed to	docum	ent the indicat	ors or con	firm the ab	sence (of indice	Sampling Point: 3		
Depth	Matrix	o the u	Redox Feat		rent the indicat	T	in the ab	Jenee (or mulca	1101.0)		
(inches)	Color (moist)	%	Color (moi	SERVICE STATE	6 Type ¹	Loc ²	Texture	s R	Remarks			
0-3	10YR 3/3						1		m gr	structure; 5% ;gr; 3 vf, f, m, 1 c roots;		
3-10	10YR 5/3						gsl		Charles and the second	structure; 1vf, c roots; cw bndy		
10-14	10YR 5/3						gls	2 m sbk structure; 1vf roots; cw bndy				
14-18	7.5YR 3/3		7.5YR 3/4	١ <	<2 C	M	gls	1	m sbl	structure; cw bndy		
18-20	10YR 5/4		7.5YR 3/4	١ <	<2 C	M	gel	1	fsbk	structure		
20								E	Dense I	nard compact till		
										•		
				-								
¹Type: C=Cc	oncentrations, D=De	epletion	RM=Reduced	Matrix.	CXS=Covered	or Coated	Sand Grains	· Lo	cation:	PI=Pore lining, RC=Root Channel, M=Matrix		
Histosol Histic Ep Black Hi Hydrogen Depleted Thick Da Sandy M Sandy Glo Restrictive Type: De Depth (in	ipedon (A2)	face (A	11)	Sar Str Lo. Lo. Lo. De Re. De Re.	ndy Redox (SS ipped Matrix (amy Mucky M amy Gleyed M pleted Matrix dox Dark Surf pleted Dark S dox Depressio	S) (S6) Iineral (F Iatrix (F2 (F3) ace (F6) urface (F7)	MLR		Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Other (Explain in Remarks ³		
HYDROL												
	drology Indicate cators (minimum		required; che	eck all t	that apply)					Secondary Indicators (2 or more required)		
Surface N High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface S Inundation	Vater (A1) ter Table (A2) n (A3)	ial Ima	gery (B7)	W Sa A A A A A A A A A	ater-Stained I. MLRA 1, 2, th Crust (B11) quatic Invertel ydrogen Sulfic xidized Rhizo esence of Red ecent Iron Red unted or Stres ther (Explain i	4A, and 4) brates (B1 de Odor (Cospheres al luced Iron luction in sed Plants	(B) (C1) (C4) (tilled Soils (D1') (LF	(C6)		Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC=Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)		
Field Observ	ations											
Surface Wat	er Present?	Y	es 🔲 N	o 🛛	Depth (incl	hes):						
Water Table	Present?	Y	es 🗌 N	o 🛛	Depth (incl	nes):						
	oillary fringe)		taces estroits white	o 🛛	Depth (inc			National Section		rology Present? Yes 🗌 No 🖂		
Describe Re	corded Data (stre	am gau	ge, monitorin	g well,	aerial photos,	, previous	inspection	s), if a	ivailable	e:		
	ear is dryer that the retention flo									tion pond is up slope from the site The		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Regions

Project/Site: MARINERS OUTLOCK PRE 18-0	05			ounty: /Sequir			te: OCT 30,	2018				
Applicant/Owner: Mariners Investors Investigator(s): W. David Loggy, Loggy Soil & Wetland Consulting Landform (hillslope, terrace, etc): Sloping Terrace State: WA Sampling Point: 4 Section 27, Township 30N, Range 03W: Local relief (concave, convex, none): Concave Slope (%) 15												
		ting					Slone	(%) 15				
Subregion (LRR): A		: N 48.0		cher (concave	Long: W 123.05		Datum: W.					
Soil Map Unit Name: Yeary Series	(see any correc	tion in S	oil Sect		NWIc	lassification	n: None					
Are climatic / hydrologic conditions on the site ty			ear? Ye		(If no, explain in							
Are vegetation , Soil , or Hydrology s Are vegetation , Soil , or Hydrology m	ignificantly dis aturally proble				ormal Circumstance ed, explain any ans			No L				
Are vegetation [], Son [], or Hydrology [] I	laturally proble	matici		(II need	cu, explain any ans	wers in Ker	narks)					
SUMMARY OF FINDINGS - Attach site map sho		g point l				s, etc						
Hydrophytic Vegetation Present? Yes ⊠ Hydric Soil Present? Yes ☐	No □ No ⊠			e Sampled Ar nin a Wetland		Yes 🗆	No	M				
Wetland Hydrology Present? Yes	No 🗵		\ \v\10	iiii a wenana		103 🔲	140					
Remarks: Clear sunny day			11.7.									
VECETATION II												
VEGETATION – Use scientific names of plant	Absolute	Dom	inant	Indicator	Dominance To	et workel	reet:					
Trees Stratum (Plot size:30' radius)	% Cover	Spec	100000000000000000000000000000000000000	Status	Number of Do							
1.	Continue de la contin	sinkerom.	one contract	A STATE OF THE STA	Are OBL, FAC			(A) 2				
2.					Total; Number	of domina	int					
3.					Species Across			(B) 3				
4.					Percent of Don			33 67				
5.					That Are OBL,	FCW, or	FAC:					
		Total (Cover		Prevalence In	dex works	heet:					
Sapling/Shrub Stratum (Plot size: 10'		23002-000220	***********		Total % Cover	of: Mul	tiply by:					
Radius)												
1.					OBL species		X	1 =				
2.	FACW species		X	2 =								
3.					FAC species		X	3 =				
4.					FACU species		X	4 =				
5.					UPL Species		X	5 =				
6.					Column totals	(A) (B)				
7.					Prevalence ind	ex = B/A =	=					
	=	Total (Cover		Hydrophytic Vo	egetation I	ndicators:					
Herb Stratum (Plot size: 1.64 Radius)					☐ 1. Rapid Tes	for Hydro	ohytic Veget	ation				
1.Festuca arundinacea	35	Y	es	FAC	20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		400-51-6000 HJ-0551624 640-4					
2. Galium aparine	20	Y		FACU	2.Dominance	e Test is >50)%					
3. Festuca pratensis	20	Y	es	FAC	3. Prevalence	Index is ≤	3.01					
4. Cirsium arvense	20	N	О	FACU	4. Morpholog							
5. Poa sp	5	N	О	FAC	supporting sheet)	data in Re	marks or on	a separate				
6					Versal Versal							
7.					5. Wetland N	lon-Vascula	ır Plants ^ı					
	100 =	Total (Cover		☐ Problematic	Hydrophyti	c Vegetation	ı				
Woody Vine Stratum (Plot size: 10' Radius)			(Explain)	, ,		SV						
1.		Indicators of hy	dric soil an	d wetland hy	drology must							
2.					be present.							
	-	Total (Cover		Uvdeenbertie							
% Bare Ground in Herb Stratum	-	Total	Cover		Hydrophytic Vegetation	V [7]	Nr. f	_				
Remarks: Galium on site is aparine because	se it has leave	s with	short-r	pointed tips.	Present? The green colo	Yes ⊠ r in this a	No [
the Galium on the site	755 (175 576) 576 (575) (47											

Depth	ription: (Describe	t o the o	Redox I			the marcar	1	The abs	Circo or i	muica	11013)
(inches)	Color (moist)	%	Color (r		%	Type ¹	Loc2	Textures	Ren	marks	5
0-4	10YR 3/2							1	2 f	gr s	tructure; 3 vf, & 2 m, c roots; cw bndy
4-10	10YR 5/3							le	100000000000000000000000000000000000000	sbk bnd	part to 2 f gr structure; 1vf, c roots;
10-15	10YR 5/3		2.5Y 5	/2	<1	D	M	gle	2 f		part to 2 f gr structure; 1vf, f roots;
15-20	2.5Y 5/3		10YR	7/1	15	D	M	gls			structure; aw bndy
- 143H 5.08W			7.5YR	3/4	<1	C	RC				
20									Dei	nse l	hard compact till
								-			
¹ Type: C=C	Concentrations, D=D	epletion	. RM=Redu	iced Ma	trix. CX	S=Covered	or Coated	Sand Grains.	2Locat	tion:	PI=Pore lining, RC=Root Channel, M=Matrix
Hydric Soil	I Indicators: (App	plicable	e to all LF	RRs, u	nless of	herwise no	oted.)				Indicators for Problematic Hydric Soils ³
Histosol	(A1)			To	Sandy	Redox (SS)				☐ 2 cm Muck (A10)
Histic E	pipedon (A2)				Strippe	ed Matrix (S6)				Red Parent Material (TF2)
Black H								1) (except N	ALRA I	1)	☐ Other (Explain in Remarks ³
	en Sulfide (A4) d Below Dark Sur	fana (A	1.15			Gleyed M		2)			30,000
	ark Surface (A12)		11)	H		ed Matrix (Dark Surf					
	Aucky Mineral (S1			IH		ed Dark Su		7)			³ Indicators of hydrophytic vegetation and
	leyed Matrix (S4)					Depressio		· /			wetland hydrology must be present, unless disturbed or problematic.
	Layer (if present	t):							T		
	ense compact till.								ŀ	Hydr	ic Soil Present? Yes 🗌 No 🖂
	nches): 20 inches	at the	edge of th	ie drai	nage di	itch from	the reten	tion nand	It is me	ore o	ravelly and sandy than the Yeary Series.
											e considered to have an Oxyaquic
conditions	as the soil may be										rovide sufficient reduction to make a
hydric soil. HYDROL						170 185					
	ydrology Indicat	ors									
	licators (minimum		required;	check	all that	apply)					Secondary Indicators (2 or more required)
	W (A.1)				T 137 .	0 11	(12)	0) (W. G. I. I. PROPERTY
Surface	Water (A1) ater Table (A2)					-Stained L LRA 1, 2, 4					Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B)
Saturation				1		rust (B11)		(D)			☐ Drainage Patterns (B10)
	Aarks (B1)			1 =		ic Inverteb		13)			Dry-Season Water Table (C2)
	nt Deposits (B2)					gen Sulfid					Saturation Visible on Aerial Imagery
☐ Drift De	eposits (B3)							long Living	Roots ((C3)	(C9)
	lat or Crust (B4)					nce of Red					Geomorphic Position (D2)
	posits (B5)							tilled Soils			Shallow Aquitard (D3)
	Soil Cracks (B6)	ial Taxa	(D5)					s (D1') (LR	RA)		FAC=Neutral Test (D5)
	ion Visible on Aer Vegetated conca] Other	(Explain i	n remark	s)			Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
	- B- man volled		(150)								
Eigld OL-											
Field Obser	vations										
Surface Wa	ter Present?	Y	es 🗌	No [Depth (inch	nes):				
Water Table	e Present?	Y	es 🗌	No [Depth (inch	ies):				
Saturation I	Present? apillary fringe)	Y	es 🗌	No [⊠ I	Depth (incl	nes):	1	Wetland	d Hyd	Irology Present? Yes ☐ No ☒
	ecorded Data (stre	am gau	ge, monite	oring v	vell, aer	ial photos,	previous	inspections), if ava	ailabl	e:
	77 PRO 18 19 19 19 19 19 19 19 19 19 19 19 19 19	and the second s	A Committee of the Comm	-	and the second of the second o		and the second s				
Dans - Jee - 7	Vanula A		.1	1. 1				11 Y 11			
											tion pond is up slope from the site. The The site is probably saturated and has a
over flow o		ows thr	ough a sh	allow	vegetat	ed draina	ge ditch	5 feet north	of this	s site.	The site is probably saturated and l

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Regions

Subregion (LRR): A Lat: N 48.06938° Long: W 123.05376° Datum: WAS Soil Map Unit Name: Yeary Series (see any correction in Soil Section) NWI classification: None												
Investigator(s): W. David Loggy, Loggy Soil & Wetland Consulting Landform (hillslope, terrace, etc): Sloping Terrace Local relief (concave, convex, none): Concave Subregion (LRR): A Lat: N 48.06938° Long: W 123.05376° Datum: WAS 84 Soil Map Unit Name: Yeary Series (see any correction in Soil Section) NWI classification: None												
Landform (hillslope, terrace, etc): Sloping Terrace Local relief (concave, convex, none): Concave Slope (%) 5 Subregion (LRR): A Lat: N 48.06938° Long: W 123.05376° Datum: WAS 84 Soil Map Unit Name: Yeary Series (see any correction in Soil Section) NWI classification: None												
Soil Map Unit Name: Yeary Series	see any correct	tion in Soil	Section)	NWI classific	ation: None							
Are vegetation , Soil , or Hydrology s Are vegetation , Soil , or Hydrology n				ormal Circumstances" pre- ed, explain any answers in		No L						
Are vegetation [], Son [], or Hydrology [] in	aturany probici	matier	(II need	ed, explain any answers if	i Kemarks)							
SUMMARY OF FINDINGS - Attach site map sho												
	No □ No ⊠		Is the Sampled Ar		7	M						
	No 🛛		Within a Wetland	? Yes	No							
Remarks:												
VEGETATION – Use scientific names of plant			. T v	T	DOM: 0.00							
Trees Stratum (Plot size:30' radius)	Absolute % Cover	Dominar Species	1757 C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Dominance Test wo Number of Dominant								
1.	78 COVEL	Species	Status	Are OBL, FACW, or		(A) 2						
2.				Total; Number of do	CONTRACTOR OF THE PROPERTY OF	(-) -						
3.				Species Across All S		(B) 3						
4.				Percent of Dominant		(5) 5						
5.				That Are OBL, FCW		(A/B) 67						
		Total Cov	or	Prevalence Index we	owkehoot:	CONTRACTOR STOCK						
		Total Cov	CI		Multiply by:							
Sapling/Shrub Stratum (Plot size: 10' Radius)												
1.				OBL species	X	1 =						
2.				FACW species	X	2 =						
3.				FAC species	X	3 =						
4.				FACU species		4 =						
5.				UPL Species	X	5 ==						
6.				Column totals	(A) (B)						
7.				Prevalence index = B	3/A =							
		Total Cov	er	Hydrophytic Vegetation	on Indicators:							
Herb Stratum (Plot size: 1.64 Radius)				☐ 1. Rapid Test for Hy	ydrophytic Veget	ation						
1. Lolium perenne	30	Yes	FAC	2.Dominance Test is	e >50%							
2. Agrostis sp	20	Yes	FAC									
3. Cirsium arvense	20	Yes	FACU	3. Prevalence Index	is ≤3.0¹							
4. Festuca pratensis	20	No	FACU	4. Morphological A	dantations (Prov	ide						
5. Plantago major	5	No	FACU	supporting data in								
6. Galium aparine	5	No	FACU	- sheet)		20 C-0 CA 00 Cardonet						
7.		140	TACC	5. Wetland Non-Va	scular Plants							
/-	100 -	-Total Cor		Miles and Miles and Miles		48						
Woody Vine Stratum (Plot size: 10'	100 =	=Total Cov	er	Problematic Hydror	ohytic Vegetation	1						
Radius)				(Explain)								
1.				¹ Indicators of hydric so	il and wetland hy	drology must						
2.				be present.	ennesse de la secola com la coma superior de Color (de C	The second section of the second section of the second section						
	-	Total Cov	ver	Hydrophytic								
% Bare Ground in Herb Stratum		10.001	***	Vegetation Present? Yes	⊠ No l	7						
Remarks: Galium on site is aparine because	it has leaves v	vith short-	pointed tips.	resent. 1est	N 140							
and the second s												

SOIL			197500 00 00			200 VA 1802 180					Sampling Point: 5				
	iption: (Describe t	o the de	pth neede	l to do	ument	the indicate	ors or conf	irm the ab	sence c	of indica	tors)				
Depth (inches)	Matrix Redox Features Color (moist) % Color (moist) % Type ¹ Loc ² Texture								s R	Remarks					
0-6	10YR 4/3					71		gsl		1 m sbk part to 2 vf, f gr structure; 2 vf, m, c roots; aw bndy					
6-12	2.5Y4/3							vgls	1		part to 2 vf, f gr structure; 1 f roots;				
12											ock or bedrock				
									_						
		-							_						
								-							
				-		-									
									_						
PH		e the contract of the contract	AND ALCOHOLD SERVICES	photo school	7.18. 10.00	A GOVERNMENT OF STREET	ANGERT SEVER CONTINUE	Sand Grains	s. ² Lo	cation:	PI=Pore lining, RC=Root Channel, M=Matrix				
	Indicators: (App	olicable	to all LR	-							Indicators for Problematic Hydric Soils ³ :				
Histosol						Redox (SS					2 cm Muck (A10)				
	oipedon (A2) istic (A3)					d Matrix (Mucky M) (eveent	MID	A 1)	Red Parent Material (TF2) Other (Explain in Remarks ³				
	n Sulfide (A4)					Gleyed M			IVIEN	~ 17	Guier (Explain in Remarks				
☐ Depleted	Below Dark Sur		1)		Deplete	ed Matrix ((F3)								
	ark Surface (A12)					Dark Surfa				³ Indicators of hydrophytic vegetation and					
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, un											wetland hydrology must be present, unless				
Restrictive Layer (if present):															
Type: Rock or concrete pad Depth (inches): 12 inches Hydric Soil Present? Yes No															
Remarks: The soil and this site is too shallow and to much gravel in the matrix to be Yeary Series															
HYDROL	OGY									11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1					
	ydrology Indicat														
Primary Ind	icators (minimum	of one	required;	check a	all that a	apply)					Secondary Indicators (2 or more required)				
Surface	Water (A1) ater Table (A2)					-Stained L RA 1, 2, 4					Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B)				
☐ Saturation	on (A3)				Salt C	rust (B11)			☐ Drainage Patterns (B10)						
	larks (BI)					ic Inverteb			Dry-Season Water Table (C2)						
	t Deposits (B2) posits (B3)			-		gen Sulfid zed Rhizos			Root	s (C3)	Saturation Visible on Aerial Imagery (C9)				
	at or Crust (B4)					ce of Red			Geomorphic Position (D2)						
	posits (B5)					t Iron Red			s (C6) Shallow Aquitard (D3)						
	Soil Cracks (B6) on Visible on Acr	ial Imaa	om. (D7)	-		d or Stress (Explain i			RR A)		☐ FAC=Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)				
	Vegetated conca			-	Other	(Explain i	ii remarks	,			Frost-Heave Hummocks (D7)				
Field Obser															
E EN EN			_	79 12	3 88	100 E21 W									
Surface Wa			s 🗆	No [Pepth (inch									
Water Table			s 🗆	No D		epth (inch				_					
	pillary fringe)	10.750	s 🔲	No [Depth (incl	omountes		100000000000000000000000000000000000000		rology Present? Yes No 🛚				
Describe Re	ecorded Data (stre	am gaug	ge, monito	ring w	ell, aeri	al photos,	previous	inspection	ıs), if a	available	91				
Remarke: 1	lear is dryer the	n norm	al but soil	do no	t have	wetland b	vdrology	Indicator	re Tri	he cita i	s very gravelly and sandy and surface and				
ground wat		ses thro	ugh the s	oil ver	y rapid	ly. The si	ite is at th				nage ditch and where the ditch ends and				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Regions

Project/Site: MARINERS OUTLOCK PRE 18-0	005	City/County: /Sequi								
Applicant/Owner: Mariners Investors	State: WA	Sampling Point: 6								
Investigator(s): W. David Loggy, Loggy Soil &	ip 30N, Range 03W:									
Landform (hillslope, terrace, etc): Sloping Terrace Local relief (concave, convex, none): Concave Slope (%) 5 Subregion (LRR): A Lat: N 48°4' 10.164" Long: W 123° 3' 11.4" Datum: WAS 84										
Soil Map Unit Name: Yeary Series	(see any correc	tion in Soi	il Section)		cation: None	.501				
Are climatic / hydrologic conditions on the site t	ypical for this ti	me of year		(If no, explain in Rem						
Are vegetation , Soil , or Hydrology				ormal Circumstances" pre		No 🗌				
Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks)										
SUMMARY OF FINDINGS - Attach site map sh		g point lo								
Hydrophytic Vegetation Present? Yes ☐ No ☒ Is the Sampled Area Hydric Soil Present? Yes ☐ No ☒ Within a Wetland? Yes ☐ No ☒										
Wetland Hydrology Present? Yes □ No ⊠										
Remarks:										
VEGETATION – Use scientific names of plan	ts									
TESTITION CONSIDERATION IN THE PARTY OF PARTY	Absolute	Domin	ant Indicator	Dominance Test wo	orksheet:					
Trees Stratum (Plot size:30' radius)	% Cover	Specie	s? Status	Number of Dominan	t Species That					
1.				Are OBL, FACW, or	r FAC:	(A) 0				
2.				Total; Number of do		00000 101				
3.				Species Across All S		(B) 2				
4.				Percent of Dominant		(4/0) 0				
5.				That Are OBL, FCW	elusia Kubanga	(A/B) 0				
		Total Co	over	Prevalence Index worksheet:						
Sapling/Shrub Stratum (Plot size: 10' Radius)				Total % Cover of:	Multiply by:					
1.				OBL species X 1 =						
2.				FACW species X 2 =						
3.	***************************************			FAC species X 3 =						
4.				FACU species	X	1=				
5.				UPL Species	X:	5 =				
6.				Column totals	(A) (B)					
7.				Prevalence index = B/A =						
		Total Co	over	Hydrophytic Vegetation Indicators:						
Herb Stratum (Plot size: 1.64 Radius)				1. Rapid Test for H	ydrophytic Vegeta	ation				
Leucanthemum vulgare	50	Yes	FACU	2.Dominance Test is >50%						
2. Festuca pratensis	20	Yes	FACU	- In 12 Cold 15 Cold 1						
3. Festuca rubra	20	No	FAC	3. Prevalence Index	ε is ≤3.0¹					
4.				☐ 4. Morphological Adaptations¹ (Provide						
5.				supporting data i sheet)	n Remarks or on a	separate				
6.				100						
7.				5. Wetland Non-Va	scular Plants ¹					
	80 =	Total Co	over	Problematic Hydro	phytic Vegetation	ı				
Woody Vine Stratum (Plot size: 10' Radius)				(Explain)	. ,					
1.				¹ Indicators of hydric so	oil and wetland hy	drology must				
2.				be present.						
		=Total Co	over	Hydrophytic						
20 % Bare Ground in Herb Stratum Remarks:	=	=Total Co	over	Hydrophytic Vegetation Present? Yes	□ No [

SOIL	Name of the same o									Sampling Point: 6			
	ription: (Describe (t the indicate	ors or conf	firm the ab	sence of	findica	itors)			
Depth (inches)	Depth (inches) Matrix Redox Fe (inches) Color (moist) % Color (mo				Type ¹	Loc2	Texture	s Ro	emarks	ks			
0-4	2.5Y 4/3		0YR 4/4	st) %	C	1.00	cl	3	m shl	structure, 2 f roots; cw bndy,			
4-8	2.5Y 5/3	1 075	0YR 4/4	<2		M	sicl	-		structure; 1 c, & 1 froots; cw bndy			
8-13	2.5Y 5/3		0YR 4/3	<2	C	M, P	sic			structure; 1 f roots; gw bndy			
13-15	2.5Y 5/1		0YR 4/4	>2 <2	C	M	sil	Hard dry till, chip outs by spade to broken sbk structure parting to granular particles, no roots.					
¹ Type: C=C	oncentrations, D=D	epletion. RM	⁄I=Reduced	Matrix. C	XS=Covered	or Coated :	Sand Grains	. ² Loc	ation:	Pl=Pore lining, RC=Root Channel, M=Matrix			
Histosol Histic E Black H Hydroge Depletee Thick D Sandy M	(A1) (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Below Dark Surfark Surface (A12) ducky Mineral (S1) leyed Matrix (S4)	face (A11)		Sandy Stripp Loam Loam Deple Redo	y Redox (SS) y Redox (SS) ped Matrix (ny Mucky M ny Gleyed M eted Matrix (x Dark Surfa eted Dark St x Depression	S6) ineral (F1 latrix (F2) (F3) ace (F6) urface (F7	,	MLRA	(1)	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) Red Parent Material (TF2) Other (Explain in Remarks ³ 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
Type: gl Depth (i Remarks:	Layer (if present acial till nches):13 inches this site is not th	8							Hydr	ic Soil Present? Yes 🗌 No 🗵			
HYDROL													
	ydrology Indicatelicatelicates licators (minimum		uired: che	ck all tha	t apply)					Secondary Indicators (2 or more required)			
Surface High W Saturati Water M Sedimer Drift De Algal M Iron De Surface	Water (A1) ater Table (A2)	ial Imagery	y (B7)	Wate Wate Wate M Salt Aqu. Hyd Oxio Pres Recco Stun	er-Stained L ILRA 1, 2, 4 Crust (B11) atic Inverteb rogen Sulfid lized Rhizos ence of Rede ent Iron Red ted or Stress er (Explain in	orates (B1) the Odor (Cospheres alouced Iron function in seed Plants	B) 3) C1) cng Living (C4) tilled Soils (D1') (LF	(C3)	Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC=Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)				
Field Obser	vations												
Surface Wa	ter Present?	Yes [□ N	o 🖂	Depth (inch	ies):							
Water Table	e Present?	Yes [□ N	o 🛛	Depth (inch	ies):							
	Present? apillary fringe) ecorded Data (stre	Yes [am gauge,		o ⊠ g well, ac	Depth (inclerial photos,					rology Present? Yes No 🖂			
	No.									200			
Remarks: 7		riod is less	than norr	nal fall ra	infall years.	The site	probably h	nas sho	rt perio	ods of soil saturation and a water table at the			

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Regions

Project/Site: MARINERS OUTLOCK PRE 18-0	005		ty/County: /Sequir)18						
Applicant/Owner: Mariners Investors	v.1. 16. 1		State: WA Sampling Point 7							
Investigator(s): W. David Loggy, Loggy Soil & Wetland Consulting Landform (hillslope, terrace, etc): Depression, sloping side & gradient Local relief (concave, convex, none): Concave Slope (%) see remaining the control of the co										
Subregion (LRR): A Lat: N 48.06986° Long: W 123.05249° Datum: WAS 84										
Soil Map Unit Name: Yeary Series	(see any correct	tion in Soil	Section)		ification: None					
Are climatic / hydrologic conditions on the site ty				(If no, explain in Re						
Are vegetation , Soil , or Hydrology s Are vegetation , Soil , or Hydrology r				ormal Circumstances" j ed. explain any answer		No L				
SUMMARY OF FINDINGS – Attach site map she Hydrophytic Vegetation Present? Yes	owing sampling No 🏻		tions, transects, i Is the Sampled Ar		te					
Hydric Soil Present? Wetland Hydrology Present? Yes		s 🗌 No	\boxtimes							
Wetland Hydrology Present? Yes No S Remarks: Lower precipitation for time of year. Concave depressional shaped drainage. Side slope of north facing slope of depression is 20 % slope with a 15% down slope gradient.										
VEGETATION – Use scientific names of plant	Absolute	Dominar	nt Indicator	Dominance Test	workshoots					
Trees Stratum (Plot size:30' radius)	% Cover	Species'		Number of Domin						
1.	200000	Decics	i, Date	Are OBL, FACW, or FAC: (A)						
2.				Total; Number of						
3.				Species Across Al		(B) 4				
4.				Percent of Domina That Are OBL, FO		(A/B) 20				
5.		Total Cov		The process of the contract of	CONTRACTOR OF THE CONTRACTOR	(A/B) 20				
	er	Prevalence Index worksheet: Total % Cover of: Multiply by:								
Sapling/Shrub Stratum (Plot size: 10' Radius)				Total 70 Cover of.	istatipiy oy.					
1.				OBL species	X	=				
2.				FACW species	X 2	2 =				
3.				FAC species X 3 =						
4.				FACU species		1 =				
5.				UPL Species	X :	5 ==				
6.				Column totals	(A) (B))				
7.				Prevalence index	= B/A =					
	-	Total Cov	er	Hydrophytic Veget	ation Indicators:					
				D I Bookd Took for	. Hadaaahadia Waad					
Herb Stratum (Plot size: 1.64 Radius)	0.5		77 1 07 7	1. Rapid Test for	· Hydrophytic Vegeta	atton				
1. Dactylis glomerata	25	Yes	FACU	2.Dominance Te	st is >50%					
2Bromus sitchensis	25	Yes	FACU	☐ 3. Prevalence Index is ≤3.01						
3. Lolium multiflorum	15	Yes	FACU							
4. Lolium perenne	15	Yes	FAC		l Adaptations ¹ (Prov					
5. Festuca pratensis	10	No	FACU	supporting dat sheet)	ta in Remarks or on a	i separate				
6. Galium aparine	5	No	FACU	ONE AND THE REAL PROPERTY.						
7. Vicia americana	5	No	FACU	5. Wetland Non-	·Vascular Plants ¹					
	100 =	Total Cov	er	Problematic Hyd	Irophytic Vegetation	1				
Woody Vine Stratum (Plot size: 10' Radius)			(Explain)							
1.					soil and wetland hy	drology must				
2.				be present.						
=Total Cover Hydrophytic										
20 % Bare Ground in Herb Stratum	Vegetation Present? Yes □ No ⊠									
Remarks:				1 a second	140					

SOIL											Sampling Point7	
Profile Description: (Describe to the depth needed to document the indicators or confirm the absence of indicators)												
Depth (inches)	Matrix Color (moist)								emarks			
0-2	10YR 3/3	2000				1774		ls	(7).7	f gran	ular structure; 3vf, f; 1 m roots; cw	
2-7	2.5Y 4/3							grsl	1	m sbk	structure parting to 2 f granular; 2 f w bndy.	
7-12	2.5Y 4/3							vgrls	1	succession and a great and	structure parting to 2 f granular; aw	
12-13	2.5Y 4/3							vgrls			e hard till, chip outs by spade to 2 f sbk structure; 2% slones	
									-			
									_			
¹ Type: C=Co	oncentrations, D=D	epletion.	RM=Reduc	ed Mat	ix. CXS	S=Covered	or Coated S	Sand Grains.	² Loc	cation:	PI=Pore lining, RC=Root Channel, M=Matrix	
Hydric Soil	Indicators: (App	olicable	to all LR	Rs, un	ess oth	erwise no	ted.)				Indicators for Problematic Hydric Soils ³ :	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (SS) Stripped Matrix (S6) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except ML) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)									2 cm Muck (A10) Red Parent Material (TF2)			
Sandy Mucky Mineral (S1) Depleted Dark Surface (17) wetlan										³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
Type: gla	Layer (if present icial till iches):13 inches	:):								Hydri	c Soil Present? Yes 🗌 No 🖂	
Remarks:			SEV			7/00/1			. A.			
/The soil at	this site is not th	e yearl	y .									
HYDROL	OGY								UI - VIII			
	drology Indicate											
Primary Ind	icators (minimum	of one	required; o	check a	II that a	apply)					Secondary Indicators (2 or more required)	
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Salt Crust (B Aquatic Inversed Hydrogen Su Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated concave Surface (B8) Water-Staine MLRA 1, Aquatic Inversed Hydrogen Su Oxidized Rhi Presence of R Stunted or St Other (Explain							A, and 41 rates (B13 e Odor (C pheres alc uced Iron uction in t ed Plants	B) 3) (1) ong Living (C4) illed Soils (D1') (LR)	(C6)	s (C3)	Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC=Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	
Field Observ	vations											
Surface Wat	er Present?	Y	es 🗌	No 🗵	D	epth (inch	es):					
Water Table	Present?	Y	es 🗌	No 🗵] D	epth (inch	es):	155				
	pillary fringe)		30.03/	No ⊠	7	Pepth (inch				- 12	rology Present? Yes No 🛛	
	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: The fall rainfall period is less than normal fall rainfall years.											
1												

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys and Coast Regions

Project/Site: MARINERS OUTLOCK PRE 18-0	05		City/C	ounty: /Sequi	m/Clallons 6	Samulina Datas	Dag 2, 20	110		
Applicant/Owner: Mariners Investors	WA	m/Clallam Sampling Date: Dec 3, 2018 Sampling Point: 8								
Investigator(s): W. David Loggy, Loggy Soil & V	p 30N, Range 03W:									
Landform (hillslope, terrace, etc.): Depression, sle hill gradient	relief (concave	e, convex, none): Concave Slope (%) see remark								
Subregion (LRR): A		N 48.0			Long: W 123.05		atum: W	AS 84		
Soil Map Unit Name: Yeary Series Are climatic / hydrologic conditions on the site ty	(see any correct				[NWI o	classification:	None Oryer than	normal		
Are vegetation , Soil , or Hydrology s					ormal Circumstance		Yes 🖂			
Are vegetation , Soil , or Hydrology n					ed, explain any an					
SUMMARY OF FINDINGS – Attach site map sho Hydrophytic Vegetation Present? Yes	owing sampling	gpoint		s, transects, i e Sampled Ar		es, etc				
	?	Yes 🗌	No	\boxtimes						
Wetland Hydrology Present? Yes	No ⊠ No ⊠		50000000				0.39790			
Remarks: Lower precipitation for time of year.	Concave depr	essiona	d shaped	drainage. Sie	de slope of north f	acing slope of o	lepression	is 20 % slope		
with a 15% down slope gradient.										
VECETATION V										
VEGETATION – Use scientific names of plant	Absolute	Dom	inant	Indicator	Dominance T	eet workehee	t ·			
Trees Stratum (Plot size:30' radius)	% Cover		cies?	Status	Number of Do					
1.	Acceleration Commission				Are OBL, FAG			(A) 1		
2.					Total; Number	r of dominant		3000		
3.					Species Acros			(B) 4		
4.					Percent of Dor That Are OBL			B 57		
5.								(A/B) 20		
	=	Total	Cover		Prevalence Index worksheet:					
Sapling/Shrub Stratum (Plot size: 10'	Total % Cover	r of: Multip	<u>ly by:</u>							
Radius)										
1.Rubus procerus	15	Y	es	FACU	OBL species	(=				
2.					FACW species			2 =		
3.					FAC species		X	3 =		
4.					FACU species	CANAL LA CALLED		1 =		
5.					UPL Species		X :	5 =		
6.					Column totals	(A)	(B)			
7.					Prevalence inc	lex = B/A =				
	-	Total	Cover		Hydrophytic Vegetation Indicators:					
Herb Stratum (Plot size: 1.64 Radius)					☐ 1. Rapid Test for Hydrophytic Vegetation					
1.Festuca pratensis	40	Y	es	FACU	With 1 2 1					
2. Lolium multiflorum	25	- 689	es	FACU	2.Dominance Test is >50%					
3. Lolium perenne	15		es	FAC	☐ 3. Prevalence Index is ≤3.01					
4. Bromus sitchensis	10		es	FACU	☐ 4 Morphole	4. Morphological Adaptations (Provide				
5.		-	-		supporting data in Remarks or on a separate					
6.					sheet)					
7.					5. Wetland	Non-Vascular P	lants1			
	100 =	Total	Cover							
Woody Vine Stratum (Plot size: 10'	Problematic (Explain)	Hydrophytic V	egetation	ı						
Radius)					Indicators of b	vdric soil and w	etland h	drology must		
		¹ Indicators of hydric soil and wetland hydrology must be present.								
2.		m			DAMESTIC STRUCTURES STRUCTURES					
20 % Bare Ground in Herb Stratum	=	Total	Cover		Hydrophytic Vegetation					
The state of the s	20 % Bare Ground in Herb Stratum									
Remarks:										

SOIL Sampling Point 8 Profile Description: (Describe to the depth needed to document the indicators or confirm the absence of indicators)														
Profile Description: (Describe t o the depth needed to document the indicators or confirm the absence of indicators or con											tors)			
Depth (inches)	Matrix Color (moist)	%	Color (mo	-	%	Type ¹	Loc ²	Textur	es I	Remarks				
0-4	7.5YR 3/2							1	175%	2 vf granular structure; 2, f, m roots; gw bndy.				
4-12	10YR 3/3							grls		- Marie	ular structure; 1 f roots; gw bndy.			
12-16	2.5Y 5/3		10YR 4/4	ı	<1	fC	M	grls		1 f sbk structure; 1 f roots; gw bndy, Layer may be ash deposit.				
16-20	7.5 YR 2.5/3							grls			structure.			
¹Type: C=Co	¹ Type: C=Concentrations, D=Depletion. RM=Reduced Matrix. CXS=Covered or Coated Sand Grains. ² Location: Pl=Pore lining, RC=Root Channel, M=Matrix													
Hydric Soil Histosol Histic Ep Black Hi Hydroge Depleted Thick Da Sandy M Sandy Gl		Sandy I Strippe Loamy Loamy Deplete Redox Deplete	Redox (SS d Matrix (Mucky M Gleyed M ed Matrix (Dark Surfa	S6) S6) Sineral (F1 Satrix (F2) (F3) Sace (F6) Surface (F7	Indicators for Problematic Hydeless of Problematic Hyd									
Restrictive Layer (if present): Type: glacial till Depth (inches): 13 inches Hydric Soil Present? Yes \(\scale= \) No \(\scale= \)														
Remarks: /The soil at this site is not the yeary.														
HYDROL	OGY													
	ydrology Indicato													
Primary Ind	icators (minimum o	of one	required; ch	eck a	ll that	apply)					Secondary Indicators (2 or more required)			
Saturatio Water M Sedimen Drift De Algal Ma Iron Dep Surface S Inundatio	ater Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated concave		ML Salt C Aquat Hydro Oxidiz Presen Recen Stunte	-Stained L IRA 1, 2, 4 rust (B11) ic Inverteb gen Sulfid zed Rhizos ice of Red t Iron Red d or Stress (Explain i	AA, and 4 orates (B1 de Odor (C spheres al- uced Iron uction in sed Plants	B) 3) C1) ong Livin (C4) tilled Soil (C1') (L	g Roo)	Water Stained Leaves (B9) (MRLA 1, 2, 4A and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC=Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)					
Field Obser	vations													
Surface Wat	ter Present?	Ye	es 🔲 📑	No 🗵		epth (inch	nes):							
Water Table				No 🗵		epth (inch	Acresonatus L (6)		200 14	925EE				
	pillary fringe)		(0.018)	lo ⊠	10	Depth (incl	0.5			(5)	rology Present? Yes No 🛛			
Describe Re	corded Data (stream	m gaug	ge, monitori	ng wo	en, aeri	ai photos,	previous	inspectio	ns), if	available	D:			
Remarks: T	he fall rainfall peri	od is l	ess than nor	mal f	all rain	fall years.								

APPENDIX III

SOILS CHARACTERISTICS COMPARISON TO HYDRIC SOIL CRITERIA FOR LRR A

PROJECT SITE SOILS COMPARISON TO HYDRIC SOIL INDICATORS

The soils are mineral soils so there is no reason to compare them any organic hydric soil indicators. The mineral soils are compared against the groups "All Soils" used for any soil regardless of texture and the "Loamy and Clayey Soils" for soil layers of loamy very fine sand and finer textures (Indicators) for the USDA Land Resource Region (LRR) A.

HYDRIC SOIL INDICATORS

A11. -Depleted Below Dark Surface.

The soils do not have a dark surface and or a layer with a depleted or gleyed matrix that has 60 % or more chroma of 2 or less starting at a depth \leq 30 cm (12 inches) from the soil surface.

A12.-Thick Dark Surface.

The soils do not have a thick black layer 30 cm (12 inches) thick from the surface and do not have a layer at least 15 cm (6 inches) thick with a depleted or gleyed matrix that has 60 percent or more chroma of 2 starting below 30 cm (12 inches) of the surface

F1.-Loamy Gleyed Matrix

The soils do not have a gleyed matrix that occupies 60 percent or more of a layer starting at a depth \leq 30 cm (12 inches) from the soil surface.

F3.-Depleted Matrix

The soils do not have a depleted Matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of either:

- a. 5 cm (2 inches) if the 5 cm starts at a depth \leq 10 cm (4 inches) from the soil surface, or
- b. 15 cm (6 inches), starting at a depth of \leq 25 cm (10 inches) from the soil surface.

F6.-Redox Dark Surface

The soils do not have a layer that is at least 10 cm (4 inches) thick, starting at a depth \leq 29 cm (8 inches) from the mineral surface and has:

- a. Matrix value of 3 or less and chroma of 1 or less and 2 percent or more distinct or prominent redox concertations occurring as soft masses or pore linings, or:
- b. Matrix value of 3 or less and chroma of 2 or less and 5 percent or more distinct or prominent redox concertations occurring as soft masses or pore linings.

F7.-Depleted Dark Surface

The soils do not have redox depletions with value of 5 or more and chroma of 2 or less in a layer that is at least 10 cm (4 inches) thick, starting at a depth of \leq 20 cm (8 inches) from the mineral soil surface and has:

- a. Matrix value of 3 or less and chroma of 1 or less and 10 percent or more redox depletions or:
- b. Matrix value of 3 or less and chroma2 or less and 20 percent or more redox depletions...

F8.-Redox Depressions.

The soils are not located in an enclosed depression subject to ponding, having 5 percent or more district or prominent redox concentrations occurring as soft masses or pore linings in a layer the is 5 cm (2 inches) or thicker and starts at a depth \leq 10 cm (4 inches) from the soil surface.

F10.-Marl.

The soils do not have a layer of marl with a value of 5 or more and chroma 2 or less starting at a depth \leq 10 cm (4 inches) from the soil surface.

APPENDIX IV

ADDITIONAL PHOTOS OF PROJECT SITE



Looking west from west depression at Himalayan black-Berry on top of retention pond dike.



Station 4 in west swale landform



Station 5 at the toe of west swale landform



Looking west at the slope landform with shrubs mark-Ing the edge of the retention pond.



Looking cross slope at stations 1-3 on upper one quarter of the west swale landform. Light tan grass area is the slope landform.



Looking up at the start of east swale landform from Station 7.



Looking down slope from the center of the east swale landform from Station $7\,$



Looking down slope about the middle of the length of the east swale Landform. Stake is station 7.